CHAPTER 1

INTRODUCTION

A. Background of the study

Education is one of the important things for humans. According to Shah (2010:10) education can be defined as a process with certain methods so that people gain the knowledge, understanding, and how to behave in accordance with needs. Kind of education can be formal, non-formal and informal. Informal education is education provided by parents and the community, that promotes the value of ethics, morals and norms. Non formal education is education that takes place in the community. While formal education is organized in schools and official character.

Situation of formal education which is implemented in the school environment through the learning process are critical success factors of one's educational series, because in this situation the transfer of knowledge between individuals is going on, both between teachers and students and students to students. Therefore, the school is often interpreted as an education in the narrow sense. Education in formal situations the most important is the implementation process not the end in the result, because the students can acquire the knowledge that they have the knowledge of the eternal provision for him to be brought into the future.

It is inevitable that in the implementation process of formal education, teaching and learning activities always have a variety of obstacles. The

obstacles can come from some factors teachers, teaching materials, and even the students themselves because of the use of learning methods. As matter of fact in SMP N 1 Surakarta show that there are many learning process using conventional methods or a lecture by the teacher, many students not yet learn when teacher teachs because student activity is very limited.

Conventional methods lead students to be passive during the learning process, because the task of the student in this case the most important thing is to sit quietly and listen carefully and note the main points from that proposed by the teacher. So that all potentials that exists in students so less optimal as a growing individual. Conventional methods also assume that all students in class are same, both in ability, readiness and maturity and speed of learning with the liaison between them (teachers and students) is through talk, but every student should not assume same, because they have advantages and disadvantages of each, so that the task of the teacher is giving lecture to students about the teaching materials presented. Although there is no doubt that conventional methods would provide convenience for teachers in organizing and mastering classroom directions.

At school, students learn a lot of subjects. One of them is mathematics. Mathematics is involved in all sciences, therefore mathematics need to be studied by everyone, especially by students. Mathematics may be defined as a science that aims to educate children to be able to think logically, critically, analytically and tenaciously and believe in yourself.

One of the goals of learning mathematics in educating children is able to think critically. Critical thinking in students is to develop the students brain to direct reflection and always question, analyze, investigate, identify, ascertain and investigate further information submitted by the teacher in learning of mathematics. This can make the student have better performance.

Based on the observations of researchers in pre-service training in SMP N 1 Surakarta, mostly in the learning process of mathematics teachers still use the conventional method in the delivery of course materials to students. Therefore, the need for renewal of the new learning methods in the delivery of course material. It is necessary as an innovation in the learning process of mathematics so that students do not experience boredom in the process of learning mathematics.

Learning method expected to shift the use of conventional learning and to improve student's critical thinking ability in the learning process of mathematics such as the use of Guided Inquiry learning method and / or Open-Ended method. Guided inquiry learning method is a series of learning activities that emphasize critical thinking and analytical process to seek and find their own answers to the problem in question. Hopefully with Guided Inquiry learning methods, students can think critically, logically, systematically and creatively to explore and find their own answers to a problem or problems in question.

It is not different from the purpose of Guided Inquiry learning method, one of the alternatives is expected to enhance student's critical thinking ability

is an Open-Ended method. Open-Ended in learning mathematics is an open learning where students can use a variety of ways to get the answers true, even students can get more than one correct answer.

Thus, either through Guided Inquiry learning method as well as Open-Ended method to learning mathematics are expected to be more meaningful. So understanding and student's critical thinking ability in solving mathematical problems will increase, as well as on student achievement.

B. Problem Statement

Base on exposure above background, the problems can be identified as follows:

1. Need for a new non conventional method to make learning mathematics is more effective and meaningful so it can develop its potential to solve mathematics problems.
2. Still encountered students who have difficulty in learning mathematics get no serious treatment.
3. Critical thinking ability in mathematics is one of the factors that can affect student achievement.

C. Limitation of the Study

The study focused on:

1. Learning methods used in this study is Guided Inquiry and Open-Ended.
2. Student's critical thinking ability in this study is the ability of students to analyze, identify and solve problems, draw conclusions, and make judgments that include high, medium and low of critical thinking ability.

3. Mathematics learning achievement in this study is student achievement in the subject of set, which is the result of a measurement and assessment effort of learn mathematics after learning process takes place.

D. Problem Formulation

Based on this background, problem identification and problem limitation described above, then the problem will be discuss in this study can be formulated as follows:

1. Is there significant difference of learning achievement between Guided Inquiry method and Open-Ended method in mathematics learning?
2. Is there significant difference of learning achievement viewed from student's critical thinking ability in mathematics learning?
3. Is there significant interaction of learning achievement between Guided Inquiry method and student's critical thinking ability in mathematics learning?

E. Objective of the Study

Based on the background of problems, problem identification and problem limitation, this research can be formulated as follows:

1. To know the difference of learning achievement between Guided Inquiry method and Open-Ended method in mathematics learning.
2. To know the difference of learning achievement viewed from student's critical thinking ability in mathematics learning.

3. To know the interaction of learning achievement between Guided Inquiry method and student's critical thinking ability in mathematics learning.

F. Benefits of the Study

Benefits expected after the study are:

1. Theoretical benefits

In general, these results are theoretically expected to contribute to the learning of mathematics, especially on the effect of using Guided Inquiry and Open-Ended to the student's critical thinking ability on Set.

In particular, Guided Inquiry and Open-Ended expected to shift the conventional learning is still often used, so the mathematics is useful to cultivate student's critical thinking ability as well as learning becomes more meaningful.

2. Practical benefits

a. For mathematics teacher, give inform to using Guided Inquiry method and / or Open-Ended method as an alternative to learning mathematics.
b. For students, this learning method can improve student's critical thinking ability in the mathematics learning.
c. For researcher, this study is a discourse in order to test the ability of the stock acquired theory in college as well as efforts to develop science in mathematics.
d. For the next researcher, the results can be used as a guide or reference for the next research.